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TYPES, COMPOSITION AND MONITORING OF GEODESIC WORKS IN CONSTRUCTION.

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Abstract: In this article, the main role of geodetic research in the implementation of any construction project is mentioned. It is explained that none of the modern structures can be built without geodetic measurements.

Key words: geodesy, surveying, project, construction, topographic plan, map.

Annotation: The main role of geodetic surveys in the implementation of any construction project in this article is the fact that without geodetic data it is impossible to emboss the designs of buildings and structures. It is emphasized that none of the modern structures can be built without geodetic measurements.

Keywords: geodesy, survey, design, construction, topographic plan, survey.

Geodetic work in construction is carried out in a certain volume and accuracy, which ensures that the geometric parameters of design documents comply with the requirements of building codes during the placement and installation of construction objects. The work is divided into the following main types: sampling, control, centralization, as well as executive inspection, monitoring of deformations of construction objects. Sampling and observation work is carried out before construction design, and engineering is carried out during exploration.

Monitoring works are carried out directly during the construction period and are intended to be carried out from the project to the locations of axes and points of buildings and structures. The performance inspection is conducted during the construction process and after its completion to control the execution and quality of the construction and installation works, as well as to draw up a new project of the built area. Monitoring of deformations of construction objects is carried out from the beginning of their construction until the end of construction and, if necessary, continues during the period of use. The composition of geodetic works related to their implementation on the construction site includes the following;

- creation of a geodetic reference network base for construction, including the construction of the central network of the construction site and the creation of a central base for the installation of the main or main central axes of buildings and structures, main and external linear structures, as well as technological equipment;

- highway, linear structures or their parts, with the exception of temporary buildings (structures), on-site installation;

- if this is provided for in the geodetic work production project or in the work production project, as well as in the production of detailed centralization works , the internal central network of buildings (structures) and technological equipment in the initial and installation horizons 'create a centralized network for installation;

of buildings (structures) and geometric parameters of completed objects or their separate parts with geodetic control and preparation of completed geodetic documents;

of foundations, buildings (structures) and their parts, if this is provided for in the design documents, are determined by field control or state control bodies.

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The geodetic work listed above is a necessary part of the technology of construction and assembly work and is carried out according to a single schedule related to the construction process and the period of completion of special works. During the construction process, the creation of the basis of geodetic measurements of deformations of buildings and structures and their parts is carried out by the customer. The contractor undertakes to carry out geodetic work during the construction process, geodetic control of the accuracy of geometric parameters of buildings (structures) and carry out execution surveys. The development of geodetic work production projects for large and complex objects and buildings above 9 floors is being developed in accordance with the procedure established for the production plan (PPR). PPGR can be developed both by the contractor and by specialized design organizations (according to the instructions of the customer).

Before commencing geodetic work on the construction site, the working drawings used in geodetic work must be checked for compatibility of dimensions, coordinates and heights and allowed to be executed by the customer's technical control. Geodetic work should be carried out with the help of measuring instruments of the required accuracy. Control devices must be adjusted in the prescribed manner and checked regularly before starting work. Geodetic work begins after cleaning the area, freeing it from destructible structures and vertical alignment, provided for in the project-estimate documents.

Organization of technical service for geodetic works.

of research and design work , construction of buildings and structures is carried out in the following order.

research and design works, geodetic provision in the city is carried out by the department under the chief architect of the city.

facilities planning and layout of underground communication networks;

topographical and geodetic works and engineering-geological studies in the construction zone, as well as conducts planning, accounting and acceptance of these works;

- takes into account topographic- geodesic and engineering-geological materials, and carries out their storage;

- controls the storage of geodetic signs;

land plots and red building lines in natural form.

the topographic and geodetic materials supply design organization, as well as by engineering and construction research organizations specializing in the types of work performed by departments (topographic and geodetic, engineering geology, etc.) or the entire complex of research works is done.

geodetic service provides technical service for geodetic works in large construction companies and central offices. This geodetic service provides leadership and control over the work of geodetic services of construction organizations, develops regulatory documents on geodetic work and organizes training for geodetic surveyors.

The main task of the geodetic service in construction organizations is to perform work that ensures the exact compliance of the constructed structures, buildings, and technological equipment with the project. Geodetic service performs the following:

- receiving topographic and geodetic documents from the customer for the construction sites of the support networks installed on the construction site, the main axes of the buildings, utility and construction networks;

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- acceptance of the master plans, building plans, working and central plans of objects, checking the geometric dimensions, coordinates and heights;

and PPGR for objects for which these drawings are prepared by design organizations ;

-if necessary, development of auxiliary geodetic network and construction network for the construction site built by the customer;

geodetic points and signs during the construction period, as well as their replacement with new planning and height determination at the construction site in case of loss;

calculation of the required accuracy of geodetic measurements performed at all stages of production and construction of geodetic testing;

- geodetic control of compliance with building codes and regulations (SNiP) during the construction process;

- geodetic monitoring of the deformation of buildings and structures from the beginning of construction (if necessary);

- preparation of technical reports on geodetic works performed during construction;

- participation in executive inspections of completed construction objects or their individual parts, as well as in the acceptance of documents for hidden works, determining the volume of earthworks and carrying out control measurements.

The status of geodetic services is determined depending on the volume of work, the level of complexity of the object under construction, and the nature of geodetic works. The geodetic service of the construction organization consists of the chief geodetic surveyor and 2-3 geodetic observers. Surveyors obey the chief engineer of the construction organization. In large trusts and associations, geodetic bureaus or a group of several people are established and headed by a surveyor-in-chief.

specialized departments and organizations with a small volume of geodetic works, responsible employees are appointed from among engineers who organize timely geodetic support of construction works.

Duties of the chief observer

- development of measures to summarize materials on the state of the geodetic service and improve it;

- monitoring the work of geodetic services of subordinate organizations;

- to inform the management of the construction organization about the need to stop the construction and installation works in connection with the detection of the deficiency;

-participation in the commissions for investigating the causes of accidents at construction sites on issues within their competence.

of construction departments and industrial enterprises must know the technical documents necessary for the production of geodetic work, keep a geodetic control log and inform the line construction staff about the control results.

The geodetic service of the construction organization is responsible for the correctness of the centralized geodetic works carried out in the prescribed manner and at the construction sites. Therefore, the most important work on the geodetic maintenance of the construction is carried out by the employees of the geodetic service. These works include: breaking the axes of structures and buildings, creating an internal alignment network; transfer of axes and heights to installation horizons; performance films and geodetic documents. However, the performance of functions by employees of the geodetic service does not release the employees of construction and assembly

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organizations from responsibility for measuring the quality of work, simple detailed cracks, test levels, and the amount of work performed.

The administration of the construction organization must provide the geodetic service with tools and equipment, inventory tools and vehicles, as well as rooms for office work and storage of tools and documents. Depending on the complexity and size of the structures under construction, various forms of geodetic maintenance have been developed in practice. During the construction of complex objects, geodetic work is carried out by a subcontractor geodetic organization or a specially created geodetic group. At the same time, the contractor approves plans and estimates of geodetic works, monitors the progress of these works (in industrial construction), and also performs uncomplicated geodetic works (in construction techniques). The most complex geodetic works in panel construction are carried out by a geodetic organization or geodetic group, and less complex works are carried out by a geodetic technician. In the construction of ordinary objects, geodetic work is carried out by a geodetic group under the management of a construction company. Monitoring control during acceptance of construction works is carried out by the customer, who carries out general technical control of the construction, or by the design organization (on behalf of the customer) at the expense of funds allocated for technical control. State technical control is carried out for the correct execution of geodetic works during the design and construction of buildings and structures .

The task of construction control is carried out by regional inspectorates, which have the authority to control the quality and cost of the execution of geodetic works, and the delivery of geodetic data and information; acceptance of completed geodetic and cartographic works; certification of geodetic instruments and control of their use in the production of geodetic works.

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